

DETAILED ACTION

This communication is a First Action Final on the merits. Claims 1-20 have been canceled. New claims 21 -42, after preliminarily amended, are currently pending and have been considered below.

Priority

Applicant's claimed foreign priority based on PCT application PCT/CN05/00031 filed on January 10, 2005 is acknowledged. However, applicant should submit certified copy of foreign applications.

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because

Figures 1 and 2 should be labeled as “ – Prior Art –” according to specification.

Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings.

The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in **Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966)**, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows: **(See MPEP Ch. 2141)**

Determining the scope and contents of the prior art;
Ascertaining the differences between the prior art and the claims in issue;
Resolving the level of ordinary skill in the pertinent art; and
Evaluating evidence of secondary considerations for indicating obviousness or nonobviousness.

3. Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 7,031,722 B2, Naghian (hereinafter Naghian), in view of US 2004/0203914 A1 Kall et al. (hereinafter Kall).

1.- 20. (Cancelled)

As to claim 21, Naghian discloses a method for processing location information request initiated by a User Equipment (UE) (Fig 5), comprising:

a target UE requesting a Central Network (CN) for location information of the target UE (col 15, lines 48-61, also see ETSI standard for GSM phase 2+,), and the CN obtaining a location estimate of the target UE (col 16, lines 6- 8, note 3G-MSC is part of CN); the CN sending the location estimate of the target UE to a Visited Gateway Mobile Location Center (V-GMLC) of the target UE (col 16, lines 44-51).

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Naghian does not expressly disclose a Visited Gateway Mobile Location Center (V-GMLC), however, the GMLC taught by Naghian performs the same function as V-GMLC with no patentable distinction function between the two. Naghian's GMLC can be either visited GMLC (V-GMLC), home GMLC (H-GMLC) or both.

Nevertheless, Naghian indicates there might be more than one GMLC in the location system (Fig 5), Kall teaches H-GMLC and V-GMLC may be used to when a UE is in home network and roamed to a foreign network (Fig 1: 101c, V-GMLC: 101b, H-GMLC, par 0004). Consider both Naghian and Kall's teachings together, it would have been obvious to one of skill in the art at the time of invention to utilize Naghian's GMLCs as H-GMLC and V-GMLC by incorporating Kall's teachings to distinguish H-GMLC and V-GMLC depending on where the UE is located in the network coverage area for better location service for the UE.

As to claim 22, Naghian as modified discloses the method according to claim 21, wherein, the step of the CN sending the location estimate of the target UE to the V-GMLC of the target UE comprises: according to a pre-stored V-GMLC address information, the CN sending the location estimate of the target UE to the V-GMLC (Naghian: col 7, lines 42-46, Kall: par 0042, 0044).

As to claim 23, Naghian as modified discloses the method according to claim 21, wherein, after the step of the CN sending the location estimate of the target UE to the V-GMLC of the target UE, further comprising: the V-GMLC generating charging

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information of the target UE (Naghian: col 14, lines 23-26, note HLR is part of CN).

As to claim 24, Naghian as modified discloses the method according to claim 21, wherein, after the step of the CN sending the location estimate of the target UE to the V-GMLC of the target UE, further comprising: the V-GMLC returning to the CN a response for the location estimate of the target UE (Naghian: col 14, lines 29-38, note 3G-MSC is part of CN).

4. Claims 25-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 7,031,722 B2, Naghian (hereinafter Naghian), in view of US 2004/0203914 A1 Kall et al. (hereinafter Kall), and further in view of US 7,277,711 B2, Nyu (hereinafter Nyu).

As to claim 25, Naghian as modified discloses the method according to claim 21, wherein, the step of the target UE requesting the CN for location information of the target UE further comprises: the target UE providing the CN with a requester identifier (Naghian: Fig 8:1,2, col 14, lines 3-14, identity of the LCS client (e.g. requester identifier) which can be derived from the UE by GMLC); the step of the CN sending the location estimate of the target UE to the V-GMLC of the target UE further comprises: the CN providing the V-GMLC with the requester identifier (Naghian: Fig 8:8); and

Naghian as modified does not expressly disclose that after the step of the CN sending

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the location estimate of the target UE to the V- GMLC of the target UE, further comprising: the V-GMLC sending the location estimate of the target UE to the requester. Nyu, however, teaches the V-GMLC may send the location report (location estimate) to the client (requester) after the location measurement 708, (Nyu: Fig 7, 709, also Figs 10, 12, 14). Consider Naghian as modified and Nyu's teachings together, it would have been obvious to one of skill in the art to further modify Naghian as modified's method by incorporating Nyu's teachings described above such that the location estimate of the UE can be provided to the requester appropriately.

As to claim 26, Naghian as modified discloses the method according to claim 25, wherein, the step of the V-GMLC sending the location estimate of the target UE to the requester comprises: the V-GMLC determining whether the V-GMLC can directly access the requester according to the requester identifier, if the V-GMLC can directly access the requester according to the requester identifier, the V-GMLC directly sending the location estimate of the target UE to the requester (Nyu: Figs 23:2309, RHV-GMLC 2ABC accesses client 1ABC (requester) directly); otherwise, according to the requester identifier, the V- GMLC finding a GMLC that can directly access the requester, and sending the location estimate of the target UE to the requester through the GMLC (Nyu: Figs 18:1812, 20:2009, V-GMLC 2BC accesses client 1A (requester) through R-GMLC 2A).

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As to claim 27, Naghian as modified discloses the method according to claim 25, wherein, after the step of the V- GMLC sending the location estimate of the target UE to the requester, further comprising: the requester returning a first response for the location estimate of the target UE to the V-GMLC (Nyu: Figs 2, 6), and the V-GMLC returning a second response for the location estimate of the target UE to the CN (Nyu: Figs 2, 6). It is obvious that Nyu provides the means to send the response from requester via V-GMLC to CN as a choice of design.

As to claim 28, Naghian as modified discloses the method according to claim 26, wherein, after the step of the V- GMLC directly sending the location estimate of the target UE to the requester, further comprising: the requester returning a first response for the location estimate of the target UE to the V-GMLC (see claim 27), and the V-GMLC returning a second response for the location estimate of the target UE to the CN (see claim 27); and

after the step of the V-GMLC finding the GMLC that can directly access the requester and sending the location estimate of the target UE to the requester through the GMLC, further comprising: the requester returning a first response for the location estimate of the target UE to the GMLC (Nyu: Fig 2, between 11 and 21, see claims 26 and 27), the GMLC returning a second response for the location estimate of the target UE to the V-GMLC (Nyu: Fig 2, between 21 and 2C (via 37)), and the V-GMLC returning a third response for the location estimate of the target UE to the CN (Nyu: Fig 2, between 2C and 3C). From Fig 2 of Nyu, ordinary skill in the art would appreciate that Nyu's system

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would possess intrinsic capability of providing the communication channel and protocol for delivering the response as described above.

As to claim 29, Naghian as modified discloses the method according to claim 26, wherein, the step of the target UE requesting the CN for the location information of the target UE further comprises: the target UE providing address information of the GMLC that can access the requester to the CN (Kall: par 0042, network address of GMLC is provided based on WLAN terminal (e.g. target UE) identify); the step of the CN sending the location estimate of the target UE to the V-GMLC of the target UE further comprises: the CN providing the address information of the GMLC to the V-GMLC (Kall: par 0042, HSS/HLR (part of CN) returns the address of the V-GMLC); and the step of the V-GMLC sending the location estimate of the target UE to the requester comprises: the V-GMLC receiving the location estimate of the target UE (see claim 21) and sending the location estimate of the target UE as well as the requester identifier to the GMLC according to the address information of the GMLC (see claim 25); the GMLC receiving the location estimate of the target UE and sending the location estimate of the target UE to the requester according to the requester identifier (see claim 26).

As to claim 30, Naghian as modified discloses the method according to claim 29, wherein, after the step of the GMLC receiving the location estimate of the target UE and sending the location estimate of target UE to the requester according to the requester

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identifier, further comprising: the requester returning a first response for the location estimate of the target UE to the GMLC, the GMLC returning a second response for the location estimate of the target UE to the V-GMLC, and the V-GMLC returning a third response for the location estimate of the target UE to the CN (it is rejected on the same ground of claim 28. See discussions on claims 28).

As to claim 31, Naghian as modified discloses the method according to claim 21, wherein, the CN is any one of: a Mobile Switch Center (MSC) (Naghian: Fig 6, 3G-MSC), an MSC Server and a Serving GPRS Support Node (Naghian: Fig 6, 3G-SGSN, Nyu: col 1, lines 41-42).

As to claim 32, Naghian as modified discloses the method according to claim 21, wherein, the step of the target UE requesting the CN for location information of the target UE comprises: the target UE sending an LCS MO-LR Location Services Invoke to the CN (Naghian: Fig 8, col 15, line 48- col 16, line 14).

As to claim 33, Naghian as modified discloses a method for processing location information request initiated by a User Equipment (UE), comprising:
a target UE requesting a Center Network (CN) for location information (see claim 21 above) and providing a requester identifier (see claim 25), the CN obtaining the location estimate of the target UE (see claim 21);
the CN sending the location estimate of the target UE to a V-GMLC of the target UE

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(see claim 21);

Naghian as modified does not expressly disclose the V-GMLC sending the location estimate of the target UE to a H-GMLC; and the H-GMLC sending the location estimate of the target UE to the requester. Nyu, however, teaches that V-GMLC may send the location estimate of the target UE to a H-GMLC and the H-GMLC sending the location estimate of the target UE to the requester (Nyu: Fig 35A, after location measurement 3509, 3510 provides location report from V-GMLC 2C to H-GMLC 2B, then client 1A (requester)). Consider Naghian as modified and Nyu's teachings together, it would have been obvious to one of skill in the art at the time of invention to further modify Naghian as modified's method by incorporating Nyu's teachings described above via V-GMLC and H-GMLC in order to provide the location report to the requester.

As to claim 34, claim 34 is rejected the same as claim 23.

As to claim 35, claim 35 is rejected the same as claim 23. In this case GMLC generating charging information of the target UE can be either V-GMLC or H-GMLC.

As to claim 36, claim 36 is rejected the same as claim 26.

As to claim 37, claim 37 recites same limitation as claim 27 except that the requester returning the location estimate to H-GMLC first then passing to V-GMLC from H-GMLC. It represents a different choice of design of claim 27 and therefore rejected the same.

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As to claim 38, following same reasoning as claim 37, claim 38 is rejected the same reason as claim 28.

As to claim 39, claim 39 recites similar limitations as claim 29 with slight variation of passing the address to H-GMLC. It is therefore rejected the same as claim 29.

As to claim 40, claim 40 recites the same limitations as claim 30 except the response of requester being returned to H-GMLC before returning to V-GMLC. Following the same rationale as claim 37, claim 40 is rejected with the same reason as claim 30.

As to claims 41 and 42, they are rejected the same as claim 31 and 32, respectively.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUN SHEN whose telephone number is (571)270-7927. The examiner can normally be reached on Monday through Thursday, 9:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, LunYi Lao can be reached on 571-272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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